

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (previously presented): A method of forming an antifuse on a semiconductor substrate, the method comprising:

- providing a partially formed semiconductor device having a substrate;
- implanting nitrogen into a first portion of the substrate of an unmasked portion of the partially formed semiconductor device;
- implanting a second portion of the substrate with nitrogen;
- using a wet oxidation process to simultaneously grow a first dielectric oxide layer on the nitrided first portion of the substrate and to grow a second dielectric oxide layer on the nitrided second portion of the substrate wherein the thickness of the first dielectric oxide layer is different than the thickness of the second dielectric oxide layer; and
- depositing a gate material directly on the dielectric oxide layer, wherein the gate material comprises one terminal of the antifuse.

Claim 2 (original): The method of forming an antifuse as recited in claim 1, wherein the nitrogen is implanted using a dose in the range from about 5×10^{13} atoms/cm² to 1×10^{15} atoms/cm² of nitrogen.

Claim 3 (original): The method of forming an antifuse as recited in claim 1, wherein the nitrogen is implanted using an energy in the range from about 5 to 50 Kev.

Claim 4 (previously presented): The method of forming an antifuse as recited in claim 1, wherein the nitrogen implant dose is about 4×10^{14} atoms/cm² implanted at an energy in the range of about 5 keV to about 50 keV.

Claim 5 (original): The method of forming an antifuse as recited in claim 1, wherein the wet oxidation process takes place at a temperature in the range from 800 to 900 degrees C.

Claim 6 (original): The method of forming an antifuse as recited in claim 1, wherein a sacrificial oxide layer is first grown on the substrate and the nitrogen is implanted within 200-600 Angstroms of the interface between the sacrificial oxide and the substrate.

Claim 7 (currently amended): The method of forming an antifuse as recited in claim 1, wherein the thickness of at least one of the grown dielectric oxide layers [[layer]] is in the range from 30 to 40 Angstroms.

Claim 8 (currently amended): The method of forming an antifuse as recited in claim 1, wherein thickness of at least one of the grown dielectric oxide layers [[layer]] is in the range from 40 to 60 Angstroms.

Claim 9 (cancelled)

Claim 10 (previously presented): The method of forming an antifuse as recited in claim 1, wherein the dose of the nitrogen in the second portion is different than the dose in the first portion.

Claims 11-20 (cancelled)

Claim 21 (currently amended): The method of Claim 19, further comprising
A method of forming an antifuse on a semiconductor substrate, the method
comprising:

providing semiconductor substrate having a plurality of shallow isolation
trenches that define active regions between the trenches;

selectively implanting nitrogen into a first active region of the substrate;

exposing the nitrogen implanted active region to an oxidizing ambient
consisting of water thereby growing an oxide layer on the nitrogen implanted
active region;

forming a gate directly on the oxide layer, wherein the gate comprises one
terminal of the antifuse device; and

selectively implanting nitrogen into a second active region of the substrate and
exposing the nitrogen implanted second active region to the oxidizing ambient at the
same time as the oxide layer to form a second oxide layer having a thickness different
than the oxide layer.